

REMARKS

Claims 1-11 are pending in the application. Claims 1, 3, 4, 7, and 8 stand rejected. Claims 2, 5, 6, 9-11 are withdrawn from consideration.

Reconsideration and allowance of the claims as amended is requested for the following reasons.

The present invention is directed to a method of manufacturing a display device having an OLED display and a touch screen. The manufacturing of the OLED display includes the steps of forming a flat-panel organic light emitting diode display on a first side of a transparent substrate that emits light through the transparent substrate; and forming a transparent resistive film using a low temperature technique on the second side of the substrate, opposite the first side of the substrate. Subsequently, a resistive touch screen is formed on the transparent resistive film through which light is emitted from the OLED display, and wherein the transparent resistive film is formed on the second side of the substrate, after forming the organic light emitting diode display on the first side of the substrate. The low temperature technique of forming the transparent resistive film does not subject the substrate to temperatures higher than 150°C.

The 103 Rejections

Claim 1 is rejected under 35 U.S.C. 103(a) as being obvious over US 6,814,632 by Siwinski et al.

Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being obvious over US Patent 6,424,094 by Feldman et al.

Claims 1, 3-4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,982,432 by Umemoto et al., in view of US Publication 2001/046604 by Geaghan, and further in view of US 6,534,200 by Heuer et al.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over '432 in view of '604, and '200, and further in view of US 6,229,506 by Dawson et al.

Statements of Common Ownership

The subject matter of the cited patent No. 6,814,642, issued to Siwinski et al., and the claimed invention of the present application No. 10/071,697 were, at the time the invention was made, owned by the common assignee, Eastman Kodak Company.

The subject matter of the cited patent No. 6,424,094, issued to Feldman et al., and the claimed invention of the present application No. 10/071,697 were, at the time the invention was made, owned by the common assignee, Eastman Kodak Company.

Regarding independent claim 1 and the cited teachings disclosed by Umemoto et al., Umemoto et al. discloses a specific structure for a non-light-emitting transparent, flexible LCD and employs ambient light that either passes through the resistive touch screen and then through the transparent, flexible LCD (seen in Fig. 5), or ambient light that passes through the LCD and is reflected from an LCD electrode or one of the electrodes of the resistive touch screen (seen in Fig. 3). In contrast, Applicants' OLED device is not constrained to be flexible or transparent; and hence a mere substitution of an OLED in place of a LCD would not result in the claimed invention. Indeed, most OLED devices that emit light through a transparent substrate, as claimed by an Applicant employ a reflective electrode at the back of the OLED device that would prevent such an OLED from being substituted for the LCD in the '432 invention. Umemoto requires deformation or flexibility of the LCD (see, Col. 2, line 59-60, "*a liquid-crystal display panel having flexibility*"), therefore, a replacement OLED would likewise have to be deformed. It is likely that such deformation of the OLED would result in damage to the OLED's organic layers and cracking of any transparent electrodes within the OLED (a well-known problem described in the art).

In contrast to Umemoto, Applicants' invention places a non-transparent OLED on one side of a transparent substrate, and a transparent resistive touch screen on the opposite of the transparent substrate. This claimed configuration enables the OLED to emit light through the resistive touch screen to a viewer. (Emitted light is generated by the device itself and enables the device to be used in the dark, i.e., without ambient light) Pressing upon the touch

screen directly operates the touch screen, but the OLED is not deformed or flexed. Moreover, ambient light is not required to operate the device, thereby, enabling the device to be operated in the dark.

Furthermore, there is no teaching in Umemoto of employing a precise temperature range of less than 150 degrees Celsius. The Examiner notes that too high a temperature results in damage to the substrate, however, Applicants' invention is not restricted to a flexible substrate sensitive to high temperatures, since a rigid substrate may be employed to form the OLED. In contrast, a temperature of less than 150 degrees Celsius is required to avoid damage to the organic materials in the OLED device. There is no teaching or motivation in Umemoto to employ such low temperatures to construct Applicants' claimed invention, which is utilizing OLEDs and not LCDs as in Umemoto. Notably, there is no disclosure in Geaghan on how to employ OLEDs. Thus, one skilled in the art is not taught what type of OLED or how to employ said OLED in a working structure that has emitted light coming through a transparent substrate.

Citing the general statement about inclusion of OLEDs by Geaghan does not instruct one skilled in the art on how to structurally orient an OLED which may be either top or bottom emitting, and that has manufacturing complexities.

The Applicants have amended claim 1 to further clarify the distinct structural differences between Applicants' invention, which emits light through a transparent substrate and the cited art. [The Examiner should note that the transparent resistive film is formed on the second side of the substrate in step c) of claim 1, after forming the organic light emitting diode display on the first side of the substrate in step b)]

Support for the amendment is found on page 4, lines 1-2 of Applicants' specification. It is believed that independent claim 1 is unobvious in light of the combination Umemoto in view of Geaghan. The remaining claims are dependent from these claims and are considered to be patentable for at least the same reasons.

Applicants have reviewed the cited art made of record and believe that singly or in any suitable combination, they do not render Applicants' claimed invention unpatentable. It is believed that the claims in the application are allowable over the cited art and such allowance is respectfully requested.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,



Stephen H. Shaw.
Attorney for Applicant(s)
Registration No. 45,404

SHS/set
stephen.h.shaw@kodak.com
Telephone: (585) 477-7419
Facsimile: (585) 477-4646

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.